

10/714,078  
Search  
Lycole 1/12/07

(FILE 'HOME' ENTERED AT 11:55:10 ON 12 JAN 2007)

FILE 'BIOSIS, CAPLUS, EMBASE, MEDLINE, JAPIO' ENTERED AT 11:55:45 ON 12  
JAN 2007

L1 0 S (108 AMINO ACID BNP)  
L2 18 S BNP AND (108 AMINO ACID)  
L3 7 DUPLICATE REMOVE L2 (11 DUPLICATES REMOVED)  
L4 1 S L3 AND ANTIBOD?  
L5 0 S BNP AND NESTRITIDE?  
L6 11945 S BNP  
L7 330 S L6 AND ANTIBOD?  
L8 196 DUPLICATE REMOVE L7 (134 DUPLICATES REMOVED)  
L9 6 S L8 AND STROKE?  
L10 55 S L8 AND PD<2000  
L11 40 S L10 AND BRAIN?

ANSWER 30 OF 40 EMBASE COPYRIGHT (c) 2007 Elsevier B.V. All rights reserved on STN

AN 1998012811 EMBASE

TI Biochemical detection of left-ventricular systolic dysfunction.

AU McDonagh T.A.; Robb S.D.; Murdoch D.R.; Morton J.J.; Ford I.; Morrison C.E.; Tunstall-Pedoe H.; McMurray J.J.V.; Dargie H.J.

CS Dr. T.A. McDonagh, Cardiology Department, Western Infirmary, Glasgow G11 6NT, United Kingdom

SO Lancet, (3 Jan 1998) Vol. 351, No. 9095, pp. 9-13.

Refs: 27

ISSN: 0140-6736 CODEN: LANCAO

CY United Kingdom

DT Journal; Article

FS 006 Internal Medicine  
018 Cardiovascular Diseases and Cardiovascular Surgery  
029 Clinical Biochemistry  
036 Health Policy, Economics and Management

LA English

SL English

ED Entered STN: 22 Jan 1998  
Last Updated on STN: 22 Jan 1998

AB Background: In previous studies on the use of natriuretic peptides to detect left-ventricular systolic dysfunction, a higher rate of cardiac disorders in the control groups than in the study groups could have led to bias. We investigated the effectiveness of plasma N-terminal atrial natriuretic peptide (NT-ANP) and brain natriuretic peptide (BNP) concentrations to show left-ventricular systolic dysfunction in a random sample of the general population. Methods: We randomly selected 2000 participants aged 25-74 years from family physicians' lists in Glasgow, UK. We sent all participants questionnaires. 1653 respondents underwent echocardiography and electrocardiography. We took a left-ventricular ejection fraction of 30% or less to show left-ventricular systolic dysfunction. NT-ANP and BNP were measured in plasma by RIAs. Findings: 1252 participants had analysable electrocardiograms and echocardiograms, completed questionnaires, and available blood samples. Median concentrations of NT-ANP and BNP were significantly higher in participants with left-ventricular systolic dysfunction (2.8 ng/mL [IQR 1.8-4.6] and 24.0 pg/mL [18.0-33.0]) than in those without (1.3 ng/mL [0.9-1.8] and 7.7 pg/mL [3.4-13.0]; each  $p < 0.001$ ). Among participants with left-ventricular systolic dysfunction, both symptomatic and asymptomatic subgroups had raised NT-ANP and BNP concentrations. A BNP concentration of 17.9 pg/mL or more gave a sensitivity of 77% and specificity of 87% in all participants, and 92% and 72% in participants aged 55 years or older. Interpretation: Measurement of BNP could be a cost-effective method of screening for left-ventricular systolic dysfunction in the general population, especially if its use were targeted to individuals at high risk.

CT Medical Descriptors:  
\*heart left ventricle failure: DI, diagnosis  
biochemistry  
hormone blood level  
united kingdom  
echocardiography  
electrocardiography  
heart ejection fraction  
radioimmunoassay  
questionnaire  
cost effectiveness analysis  
high risk population  
human  
male  
female  
major clinical study  
controlled study

aged  
adult  
clinical trial  
randomized controlled trial  
article

priority journal  
Drug Descriptors:

\*brain natriuretic peptide: EC, endogenous compound

\*atrial natriuretic factor: EC, endogenous compound

antibody

RN (brain natriuretic peptide) 114471-18-0; (atrial natriuretic factor) 85637-73-6

NP (1) RAS 9129; (2) BNP RIK 9086  
CO (2) Peninsula (United States)

aged  
adult  
clinical trial  
randomized controlled trial  
article  
priority journal

Drug Descriptors:

\*brain natriuretic peptide: EC, endogenous compound

\*atrial natriuretic factor: EC, endogenous compound

antibody

RN (brain natriuretic peptide) 114471-18-0; (atrial natriuretic factor) 85637-73-6

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L5 0 S BNP AND NESTRITIDE?  
L6 11945 S BNP  
L7 330 S L6 AND ANTIBOD?  
L8 196 DUPLICATE REMOVE L7 (134 DUPLICATES REMOVED)  
L9 6 S L8 AND STROKE?  
L10 55 S L8 AND PD<2000  
L11 40 S L10 AND BRAIN?

RL: ANT (Analyte); BSU (Biological study, unclassified); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)

(immunoassay with  $\alpha$ - brain natriuretic peptide-specific antibody and prepro-BNP/ $\gamma$ - BNP -specific antibody for BNP determination and cardiac diseases diagnosis)

IT 114471-18-0, Brain natriuretic peptide 122007-25-4,  
Brain natriuretic peptide, prepro-

RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)

(immunoassay with  $\alpha$ - brain natriuretic peptide-specific antibody and prepro-BNP/ $\gamma$ - BNP -specific antibody for BNP determination and cardiac diseases diagnosis)

IT 124586-56-7 221266-50-8

RL: BSU (Biological study, unclassified); BIOL (Biological study)

(immunoassay with  $\alpha$ - brain natriuretic peptide-specific antibody and prepro-BNP/ $\gamma$ - BNP -specific antibody for BNP determination and cardiac diseases diagnosis)

RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

- (1) Anon; FEBS LETTERS 1997, V400(2), P177
- (2) Medinnova Sf; WO 9324531 A CAPLUS
- (3) Medinnova Sf; JP 07507210 A 1995
- (4) Shionogi & Co Ltd; JP 03297392 A 1991 CAPLUS

RL: ANT (Analyte); BSU (Biological study, unclassified); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)

(immunoassay with  $\alpha$ - brain natriuretic peptide-specific antibody and prepro-BNP/ $\gamma$ - BNP -specific antibody for BNP determination and cardiac diseases diagnosis)

IT 114471-18-0, Brain natriuretic peptide 122007-25-4,  
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RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)

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- (1) Anon; FEBS LETTERS 1997, V400(2), P177
- (2) Medinnova Sf; WO 9324531 A CAPLUS
- (3) Medinnova Sf; JP 07507210 A 1995
- (4) Shionogi & Co Ltd; JP 03297392 A 1991 CAPLUS

ES 2256952	ECLA	G01N033/53; G01N033/74
	IPCI	G01N0033-53 [ICS,4]; G01N0033-68 [ICS,4]
	IPCR	G01N0033-53 [I,C*]; G01N0033-53 [I,A]; G01N0033-74 [I,C*]; G01N0033-74 [I,A]
NO 2000001273	ECLA	G01N033/53; G01N033/74
	IPCI	G01N0033-53 [ICM,7]
	IPCR	G01N0033-53 [I,C*]; G01N0033-53 [I,A]; G01N0033-74 [I,C*]; G01N0033-74 [I,A]
US 2003157596	IPCI	G01N0033-53 [ICM,7]; C07H0021-04 [ICS,7]; C07H0021-00 [ICS,7,C*]; C12P0021-02 [ICS,7]; C12N0005-06 [ICS,7]; C07K0014-47 [ICS,7]; C07K0014-435 [ICS,7,C*]
	IPCR	G01N0033-53 [I,C*]; G01N0033-53 [I,A]; G01N0033-74 [I,C*]; G01N0033-74 [I,A]
	NCL	435/069.100; 435/007.100; 435/320.100; 435/325.000; 530/350.000; 536/023.100
	ECLA	G01N033/53; G01N033/74
AB	An immunoassay method specific for mammalian $\gamma$ - BNP derivs. which comprises using a first antibody reacting with mammalian $\alpha$ - BNP and a second antibody reacting with prepro-BNP or $\gamma$ - BNP derivs. but not with $\alpha$ - BNP and wherein at least one of these antibodies has been detectably labeled or supported on a solid phase. The immunoassay kit is useful for diagnosis of BNP-associated heart diseases.	
ST	monoclonal antibody gamma BNP heart disease	
IT	Blood plasma	
	Chemiluminescent substances	
	Fluorescent substances	
	Heart, disease	
	Immunoassay	
	Labels	
	Mammal (Mammalia)	
	Particles	
	Test kits	
	(immunoassay with $\alpha$ - brain natriuretic peptide-specific antibody and prepro-BNP/ $\gamma$ - BNP -specific antibody for BNP determination and cardiac diseases diagnosis)	
IT	Enzymes, biological studies	
	Radionuclides, biological studies	
	RL: ARU (Analytical role, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)	
	(immunoassay with $\alpha$ - brain natriuretic peptide-specific antibody and prepro-BNP/ $\gamma$ - BNP -specific antibody for BNP determination and cardiac diseases diagnosis)	
IT	Antibodies	
	RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)	
	(immunoassay with $\alpha$ - brain natriuretic peptide-specific antibody and prepro-BNP/ $\gamma$ - BNP -specific antibody for BNP determination and cardiac diseases diagnosis)	
IT	Immunoassay	
	(immunoradiometric assay, sandwich; immunoassay with $\alpha$ - brain natriuretic peptide-specific antibody and prepro-BNP/ $\gamma$ - BNP-specific antibody for BNP determination and cardiac diseases diagnosis)	
IT	Antibodies	
	RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)	
	(monoclonal; immunoassay with $\alpha$ - brain natriuretic peptide-specific antibody and prepro-BNP/ $\gamma$ - BNP-specific antibody for BNP determination and cardiac diseases diagnosis)	
IT	121128-24-3, $\gamma$ Brain natriuretic peptide	

ES 2256952	ECLA	G01N033/53; G01N033/74
	IPCI	G01N0033-53 [ICS,4]; G01N0033-68 [ICS,4]
	IPCR	G01N0033-53 [I,C*]; G01N0033-53 [I,A]; G01N0033-74 [I,C*]; G01N0033-74 [I,A]
NO 2000001273	ECLA	G01N033/53; G01N033/74
	IPCI	G01N0033-53 [ICM,7]
	IPCR	G01N0033-53 [I,C*]; G01N0033-53 [I,A]; G01N0033-74 [I,C*]; G01N0033-74 [I,A]
US 2003157596	IPCI	G01N0033-53 [ICM,7]; C07H0021-04 [ICS,7]; C07H0021-00 [ICS,7,C*]; C12P0021-02 [ICS,7]; C12N0005-06 [ICS,7]; C07K0014-47 [ICS,7]; C07K0014-435 [ICS,7,C*]
	IPCR	G01N0033-53 [I,C*]; G01N0033-53 [I,A]; G01N0033-74 [I,C*]; G01N0033-74 [I,A]
	NCL	435/069.100; 435/007.100; 435/320.100; 435/325.000; 530/350.000; 536/023.100
	ECLA	G01N033/53; G01N033/74

AB An immunoassay method specific for mammalian  $\gamma$ - BNP derivs. which comprises using a first antibody reacting with mammalian  $\alpha$ - BNP and a second antibody reacting with prepro-BNP or  $\gamma$ - BNP derivs. but not with  $\alpha$ - BNP and wherein at least one of these antibodies has been detectably labeled or supported on a solid phase. The immunoassay kit is useful for diagnosis of BNP-associated heart diseases.

ST monoclonal antibody gamma BNP heart disease

IT Blood plasma

Chemiluminescent substances

Fluorescent substances

Heart, disease

Immunoassay

Labels

Mammal (Mammalia)

Particles

Test kits

(immunoassay with  $\alpha$ - brain natriuretic peptide-specific antibody and prepro-BNP/ $\gamma$ - BNP -specific antibody for BNP determination and cardiac diseases diagnosis)

IT Enzymes, biological studies

Radionuclides, biological studies

RL: ARU (Analytical role, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)

(immunoassay with  $\alpha$ - brain natriuretic peptide-specific antibody and prepro-BNP/ $\gamma$ - BNP -specific antibody for BNP determination and cardiac diseases diagnosis)

IT Antibodies

RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(immunoassay with  $\alpha$ - brain natriuretic peptide-specific antibody and prepro-BNP/ $\gamma$ - BNP -specific antibody for BNP determination and cardiac diseases diagnosis)

IT Immunoassay

(immunoradiometric assay, sandwich; immunoassay with  $\alpha$ - brain natriuretic peptide-specific antibody and prepro-BNP/ $\gamma$ - BNP-specific antibody for BNP determination and cardiac diseases diagnosis)

IT Antibodies

RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(monoclonal; immunoassay with  $\alpha$ - brain natriuretic peptide-specific antibody and prepro-BNP/ $\gamma$ - BNP-specific antibody for BNP determination and cardiac diseases diagnosis)

IT 121128-24-3,  $\gamma$  Brain natriuretic peptide

ANSWER 23 OF 40 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1999:194337 CAPLUS

DN 130:232845

ED Entered STN: 25 Mar 1999

TI Immunoassay method for brain natriuretic peptide (BNP)

IN Asada, Hidehisa; Shimizu, Hiroyuki; Endou, Kazuaki

PA Shionogi & Co., Ltd., Japan

SO PCT Int. Appl., 24 pp.

CODEN: PIXXD2

DT Patent

LA Japanese

IC ICM G01N033-53

CC 2-1 (Mammalian Hormones)

Section cross-reference(s): 9, 15

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9913331	A1	19990318	WO 1998-JP4063	19980910 <--
	W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW				
	RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	CA 2304263	A1	19990318	CA 1998-2304263	19980910 <--
	AU 9890010	A	19990329	AU 1998-90010	19980910 <--
	AU 731858	B2	20010405		
	EP 1016867	A1	20000705	EP 1998-941797	19980910
	EP 1016867	B1	20060104		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY				
	JP 3516655	B2	20040405	JP 2000-511064	19980910
	AT 315228	T	20060215	AT 1998-941797	19980910
	ES 2256952	T3	20060716	ES 1998-941797	19980910
	NO 2000001273	A	20000510	NO 2000-1273	20000310
	US 2003157596	A1	20030821	US 2000-508435	20000313
	US 6828107	B2	20041207		
PRAI	JP 1997-246684	A	19970911		
	WO 1998-JP4063	W	19980910		

CLASS

	PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
	WO 9913331	ICM	G01N033-53
		IPCI	G01N0033-53 [ICM,6]
		IPCR	G01N0033-53 [I,C*]; G01N0033-53 [I,A]; G01N0033-74 [I,C*]; G01N0033-74 [I,A]
	CA 2304263	ECLA	G01N033/53
		IPCI	G01N0033-53 [ICM,7]
		IPCR	G01N0033-53 [I,C*]; G01N0033-53 [I,A]; G01N0033-74 [I,C*]; G01N0033-74 [I,A]
	AU 9890010	IPCI	G01N0033-53 [ICM,6]
		IPCR	G01N0033-53 [I,C*]; G01N0033-53 [I,A]; G01N0033-74 [I,C*]; G01N0033-74 [I,A]
	EP 1016867	IPCI	G01N0033-53 [I,C]; G01N0033-68 [I,C]; G01N0033-53 [I,A]; G01N0033-68 [I,A]
		IPCR	G01N0033-53 [I,C*]; G01N0033-53 [I,A]; G01N0033-74 [I,C*]; G01N0033-74 [I,A]
	JP 3516655	ECLA	G01N033/53; G01N033/74
		IPCI	G01N0033-53 [ICM,7]
	AT 315228	IPCI	G01N0033-53 [ICS,7]; G01N0033-68 [ICS,7]
		IPCR	G01N0033-53 [I,C*]; G01N0033-74 [I,C*]; G01N0033-53 [I,A]; G01N0033-74 [I,A]

ANSWER 2 OF 40 BIOSIS COPYRIGHT (c) 2007 The Thomson Corporation on STN  
AN 1999:241472 BIOSIS  
DN PREV199900241472  
TI An immunoluminometric assay for N-terminal pro-brain natriuretic peptide: Development of a test for left ventricular dysfunction.  
AU Hughes, D.; Talwar, S.; Squire, I. B.; Davies, J. E.; Ng, L. L. [Reprint author]  
CS Department of Medicine and Therapeutics, Leicester Royal Infirmary, University of Leicester, Robert Kilpatrick Clinical Sciences Building, Leicester, LE2 7LX, UK  
SO Clinical Science (London), (April, 1999) Vol. 96, No. 4, pp. 373-380. print.  
CODEN: CSCIAE. ISSN: 0143-5221.  
DT Article  
LA English  
ED Entered STN: 17 Jun 1999  
Last Updated on STN: 20 Aug 1999  
AB Measurement of plasma levels of brain natriuretic peptide (BNP) has been used to assess left ventricular dysfunction and prognosis. Levels of the N-terminus of the precursor of BNP (NT-proBNP) have been reported to be elevated to a greater extent than BNP in left ventricular dysfunction. We have devised a non-radioactive sensitive and specific assay for NT-proBNP based on a competitive ligand binding principle. The chemiluminescent label 4-(2-succinimidyl-oxy carbonyl ethyl) phenyl-10-methylacridinium 9-carboxylate fluorosulphonate was used to label peptides representing domains in the middle and C-terminal sections of NT-proBNP. Assay of the C-terminal section of NT-proBNP (amino acids 65-76) in patients with proven left ventricular dysfunction (left ventricular wall motion index median 0.9 (range 0.3-1.4)) revealed elevated values (median 639 (386-911) fmol/ml) compared with normal controls (left ventricular wall motion index of 2 in all, NT-proBNP median 159 (120-245) fmol/ml, P < 0.001). Measurement of the middle section of NT-proBNP (amino acids 37-49) was not a discriminating test. It is thus possible to derivatize small peptides with a methyl acridinium label and preserve immunodetection with specific antibodies. Such methodology may allow non-radioactive immunoluminometric assays to be devised.  
CC Cardiovascular system - General and methods 14501  
Biochemistry methods - General 10050  
Endocrine - General 17002  
Biochemistry studies - General 10060  
IT Major Concepts  
Cardiovascular System (Transport and Circulation); Methods and Techniques  
IT Diseases  
left ventricular dysfunction: heart disease  
Ventricular Dysfunction, Left. (MESH)  
IT Chemicals & Biochemicals  
brain natriuretic peptide: plasma; N-terminal-pro-  
brain natriuretic peptide; 4-(2-succinimidyl-oxy carbonyl ethyl) phenyl-10-methylacridinium 9-carboxylate fluorosulphonate: chemiluminescent label  
IT Methods & Equipment  
immunoluminometric assay: diagnostic method  
RN 114471-18-0 (brain natriuretic peptide)  
87198-89-8 (4-(2-succinimidyl-oxy carbonyl ethyl) phenyl-10-methylacridinium 9-carboxylate fluorosulphonate)  
121128-24-3 (PRO-BRAIN NATRIURETIC PEPTIDE)

ANSWER 5 OF 55 BIOSIS COPYRIGHT (c) 2007 The Thomson Corporation on STN  
AN 1997:510473 BIOSIS  
DN PREV199799809676  
TI A new, fast and reliable radioimmunoassay of brain natriuretic peptide in  
human plasma. Reference values in healthy subjects and in patients with  
different diseases.  
AU Jensen, K. T. [Reprint author]; Carstens, J.; Ivarsen, P.; Pedersen, E. B.  
CS Res. Lab. Nephrology and Hypertension, Aarhus Univ. Hosp., Aarhus  
Aamtssyygehus, DK-8000 Aarhus C, Denmark  
SO Scandinavian Journal of Clinical and Laboratory Investigation, (1997) Vol. 57, No. 6, pp. 529-540.  
CODEN: SJCLAY. ISSN: 0036-5513.  
DT Article  
LA English  
ED Entered STN: 10 Dec 1997  
Last Updated on STN: 10 Dec 1997

ANSWER 8 OF 55 BIOSIS COPYRIGHT (c) 2007 The Thomson Corporation on STN  
AN 1996:191586 BIOSIS  
DN PREV199698747715  
TI Preparation of a monoclonal antibody against mouse brain  
natriuretic peptide (BNP) and tissue distribution of BNP  
in mice.  
AU Nakagawa, Masayo; Tanaka, Issei [Reprint author]; Suga, Shin-Ichi; Ogawa,  
Yoshihiro; Tamura, Naohisa; Goto, Masahisa; Sugawara, Akira; Yoshimasa,  
Takaaki; Itoh, Hiroshi; Mukoyama, Masashi; Nakao, Kazuwa  
CS Dep. Med. Clinical Sci., Kyoto Univ. Graduate Sch. Med., 54 Shogoin  
Kawahara-cho, Sakyo-ku, Kyoto 606, Japan  
SO Clinical and Experimental Pharmacology and Physiology, (1995)  
Vol. 22, No. SUPPL. 1, pp. S186-S187.  
ISSN: 0305-1870.  
DT Article  
LA English  
ED Entered STN: 2 May 1996  
Last Updated on STN: 2 May 1996

ANSWER 16 OF 55 BIOSIS COPYRIGHT (c) 2007 The Thomson Corporation on  
STN  
AN 1993:429763 BIOSIS  
DN PREV199396084388  
TI Ventricular expression of brain natriuretic peptide in hypertrophic  
cardiomyopathy.  
AU Hasegawa, Koji; Fujiwara, Hisayoshi [Reprint author]; Doyama, Kiyoshi;  
Miyamae, Masami; Fujiwara, Takako; Suga, Shinichi; Mukoyama, Masashi;  
Nakao, Kazuwa; Imura, Hiroo; Sasayama, Shigetake  
CS Third Div., Dep. Internal Med., Fac. Med., Kyoto Univ., 54 Kawara-cho  
Shogoin, Sakyo-ku, Kyoto 606, Japan  
SO Circulation, (1993) Vol. 88, No. 2, pp. 372-380.  
CODEN: CIRCAZ. ISSN: 0009-7322.  
DT Article  
LA English  
ED Entered STN: 22 Sep 1993  
Last Updated on STN: 23 Sep 1993

ANSWER 5 OF 55 BIOSIS COPYRIGHT (c) 2007 The Thomson Corporation on STN  
AN 1997:510473 BIOSIS  
DN PREV199799809676  
TI A new, fast and reliable radioimmunoassay of brain natriuretic peptide in  
human plasma. Reference values in healthy subjects and in patients with  
different diseases.  
AU Jensen, K. T. [Reprint author]; Carstens, J.; Ivarsen, P.; Pedersen, E. B.  
CS Res. Lab. Nephrology and Hypertension, Aarhus Univ. Hosp., Aarhus  
Aamtssyygehus, DK-8000 Aarhus C, Denmark  
SO Scandinavian Journal of Clinical and Laboratory Investigation, (1997) Vol. 57, No. 6, pp. 529-540.  
CODEN: SJCLAY. ISSN: 0036-5513.  
DT Article  
LA English  
ED Entered STN: 10 Dec 1997  
Last Updated on STN: 10 Dec 1997

10/7/4,078  
updated  
LycaK 1/12/09

d his

(FILE 'HOME' ENTERED AT 14:35:33 ON 12 JAN 2007)

FILE 'BIOSIS, CAPLUS, EMBASE, MEDLINE, JAPIO' ENTERED AT 14:35:48 ON 12  
JAN 2007

L1 11945 S BNP  
L2 1787 S L1 AND HEMO?  
L3 49 S L2 AND THROMBO?  
L4 29 DUPLICATE REMOVE L3 (20 DUPLICATES REMOVED)  
L5 1 S L4 AND ANTIBOD?  
L6 28 S L4 NOT L5

AN 1998:89478 BIOSIS

DN PREV199800089478

TI Plasma brain natriuretic peptide levels increase in proportion to the extent to right ventricular dysfunction in pulmonary hypertension.

AU Nagaya, Noritoshi; Nishikimi, Toshio [Reprint author]; Okano, Yoshiaki; Uematsu, Masaaki; Satoh, Toru; Kyotani, Shingo; Kurabayashi, Sachio; Hamada, Seiki; Kakishita, Mikio; Nakanishi, Norifumi; Takamiya, Makoto; Kunieda, Takeyoshi; Matsuo, Hisayuki; Kanagawa, Kenji

CS Dep. Hypertension, Natl. Cardiovasc. Cent., 5-7-1 Fujishirodai, Suita, Osaka 565, Japan

SO Journal of the American College of Cardiology, (Jan., 1998) Vol. 31, No. 1, pp. 202-208. print.

CODEN: JACCDI. ISSN: 0735-1097.

DT Article

LA English

ED Entered STN: 25 Feb 1998

Last Updated on STN: 25 Feb 1998

AB Objectives. This study sought to investigate the influence of right ventricular (RV) hemodynamic variables and function on the secretion of brain natriuretic peptide (BNP) in patients with isolated RV overload. Background. Plasma BNP is known to increase in proportion to the degree of left ventricular (LV) overload. However, whether BNP secretion is also regulated in the presence of RV overload remains unknown. Methods. Plasma BNP and atrial natriuretic peptide (ANP) levels in the pulmonary artery were measured in 44 patients with RV overload: 18 with RV volume overload (RVVO) due to atrial septal defect and 26 with RV pressure overload (RVPO) due to primary or thromboembolic pulmonary hypertension. Right heart catheterization was performed in all patients. RV and LV ejection fraction, myocardial mass and volume of the four chambers were determined by using electron beam computed tomography. Results. Although both plasma BNP and ANP levels were significantly elevated in patients with RV overload compared with values in control subjects, plasma BNP and the BNP/ANP ratio were significantly higher in patients with RVPO than with RVVO (BNP 294 +- 72 vs. 48 +- 14 pg/ml; BNP/ANP 1.6 +- 0.2 vs. 0.8 +- 0.2, both p < 0.05). Plasma BNP correlated positively with mean pulmonary artery pressure ( $r = 0.73$ ), total pulmonary resistance ( $r = 0.79$ ), mean right atrial pressure ( $r = 0.79$ ), RV end-diastolic pressure ( $r = 0.76$ ) and RV myocardial mass ( $r = 0.71$ ); it correlated negatively with cardiac output ( $r = -0.33$ ) and RV ejection fraction ( $r = -0.71$ ). Plasma BNP significantly decreased from 315 +- 120 to 144 +- 54 pg/ml with long-term vasodilator therapy (total pulmonary resistance decreased from 23 +- 4 to 15 +- 3 Wood U). Conclusions. Plasma BNP increases in proportion to the extent of RV dysfunction in pulmonary hypertension.

CC Cardiovascular system - General and methods 14501

Pathology - Therapy 12512

Endocrine - General 17002

Pharmacology - General 22002

IT Major Concepts

Cardiovascular Medicine (Human Medicine, Medical Sciences)

IT Diseases

pulmonary hypertension: vascular disease

Hypertension, Pulmonary (MeSH)

IT Chemicals & Biochemicals

atrial natriuretic peptide: secretion, plasma; brain natriuretic peptide: secretion, plasma; vasodilators

IT Miscellaneous Descriptors

cardiac output; mean right atrial pressure; pulmonary artery pressure; right ventricular ejection fraction; right ventricular end-diastolic pressure; right ventricular myocardial mass; right ventricular pressure overload; right ventricular volume overload; total pulmonary resistance

AN 1998:89478 BIOSIS

DN PREV199800089478

TI Plasma brain natriuretic peptide levels increase in proportion to the extent to right ventricular dysfunction in pulmonary hypertension.

AU Nagaya, Noritoshi; Nishikimi, Toshio [Reprint author]; Okano, Yoshiaki; Uematsu, Masaaki; Satoh, Toru; Kyotani, Shingo; Kurabayashi, Sachio; Hamada, Seiki; Kakishita, Mikio; Nakanishi, Norifumi; Takamiya, Makoto; Kunieda, Takeyoshi; Matsuo, Hisayuki; Kanagawa, Kenji

CS Dep. Hypertension, Natl. Cardiovasc. Cent., 5-7-1 Fujishirodai, Suita, Osaka 565, Japan

SO Journal of the American College of Cardiology, (Jan., 1998) Vol. 31, No. 1, pp. 202-208. print.

CODEN: JACCDI. ISSN: 0735-1097.

DT Article

LA English

ED Entered STN: 25 Feb 1998

Last Updated on STN: 25 Feb 1998

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CC Cardiovascular system - General and methods 14501

Pathology - Therapy 12512

Endocrine - General 17002

Pharmacology - General 22002

IT Major Concepts

Cardiovascular Medicine (Human Medicine, Medical Sciences)

IT Diseases

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Hypertension, Pulmonary (MeSH)

IT Chemicals & Biochemicals

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IT Miscellaneous Descriptors

cardiac output; mean right atrial pressure; pulmonary artery pressure; right ventricular ejection fraction; right ventricular end-diastolic pressure; right ventricular myocardial mass; right ventricular pressure overload; right ventricular volume overload; total pulmonary resistance

ORGN Classifier  
Hominidae 86215  
Super Taxa  
Primates; Mammalia; Vertebrata; Chordata; Animalia  
Organism Name  
human  
Taxa Notes  
Animals, Chordates, Humans, Mammals, Primates, Vertebrates  
RN 85637-73-6 (atrial natriuretic peptide)  
114471-18-0 (brain natriuretic peptide)

ORGN Classifier

Hominidae 86215

Super Taxa

Primates; Mammalia; Vertebrata; Chordata; Animalia

Organism Name

human

Taxa Notes

Animals, Chordates, Humans, Mammals, Primates, Vertebrates

RN 85637-73-6 (atrial natriuretic peptide)

114471-18-0 (brain natriuretic peptide)

d his

(FILE 'HOME' ENTERED AT 14:35:33 ON 12 JAN 2007)

FILE 'BIOSIS, CAPLUS, EMBASE, MEDLINE, JAPIO' ENTERED AT 14:35:48 ON 12  
JAN 2007

L1 11945 S BNP  
L2 1787 S L1 AND HEMO?  
L3 49 S L2 AND THROMBO?  
L4 29 DUPLICATE REMOVE L3 (20 DUPLICATES REMOVED)  
L5 1 S L4 AND ANTIBOD?  
L6 28 S L4 NOT L5

AN 1999:241472 BIOSIS

DN PREV199900241472

TI An immunoluminometric assay for N-terminal pro-brain natriuretic peptide: Development of a test for left ventricular dysfunction.

AU Hughes, D.; Talwar, S.; Squire, I. B.; Davies, J. E.; Ng, L. L. [Reprint author]

CS Department of Medicine and Therapeutics, Leicester Royal Infirmary, University of Leicester, Robert Kilpatrick Clinical Sciences Building, Leicester, LE2 7LX, UK

SO Clinical Science (London), (April, 1999) Vol. 96, No. 4, pp. 373-380. print.

CODEN: CSCIAE. ISSN: 0143-5221.

DT Article

LA English

ED Entered STN: 17 Jun 1999

Last Updated on STN: 20 Aug 1999

AB Measurement of plasma levels of brain natriuretic peptide (BNP) has been used to assess left ventricular dysfunction and prognosis. Levels of the N-terminus of the precursor of BNP (NT-proBNP) have been reported to be elevated to a greater extent than BNP in left ventricular dysfunction. We have devised a non-radioactive sensitive and specific assay for NT-proBNP based on a competitive ligand binding principle. The chemiluminescent label 4-(2-succinimidyl-oxy carbonyl ethyl)phenyl-10-methylacridinium 9-carboxylate fluorosulphonate was used to label peptides representing domains in the middle and C-terminal sections of NT-proBNP. Assay of the C-terminal section of NT-proBNP (amino acids 65-76) in patients with proven left ventricular dysfunction (left ventricular wall motion index median 0.9 (range 0.3-1.4)) revealed elevated values (median 639 (386-911) fmol/ml) compared with normal controls (left ventricular wall motion index of 2 in all, NT-proBNP median 159 (120-245) fmol/ml,  $P < 0.001$ ). Measurement of the middle section of NT-proBNP (amino acids 37-49) was not a discriminating test. It is thus possible to derivatize small peptides with a methyl acridinium label and preserve immunodetection with specific antibodies. Such methodology may allow non-radioactive immunoluminometric assays to be devised.

CC Cardiovascular system - General and methods 14501

Biochemistry methods - General 10050

Endocrine - General 17002

Biochemistry studies - General 10060

IT Major Concepts

Cardiovascular System (Transport and Circulation); Methods and Techniques

IT Diseases

left ventricular dysfunction: heart disease

Ventricular Dysfunction, Left (MeSH)

IT Chemicals &amp; Biochemicals

brain natriuretic peptide: plasma; N-terminal-pro-

brain natriuretic peptide; 4-(2-succinimidyl-oxy carbonyl ethyl)

phenyl-10-methylacridinium 9-carboxylate fluorosulfonate:

chemiluminescent label

IT Methods &amp; Equipment

immunoluminometric assay: diagnostic method

RN 114471-18-0 (brain natriuretic peptide)

87198-89-8 (4-(2-succinimidyl-oxy carbonyl ethyl) phenyl-10-methylacridinium

9-carboxylate fluorosulfonate)

121128-24-3 (PRO-BRAIN NATRIURETIC PEPTIDE)

*adonis*

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AN 1998012811 EMBASE

TI Biochemical detection of left-ventricular systolic dysfunction.

AU McDonagh T.A.; Robb S.D.; Murdoch D.R.; Morton J.J.; Ford I.; Morrison C.E.; Tunstall-Pedoe H.; McMurray J.J.V.; Dargie H.J.

CS Dr. T.A. McDonagh, Cardiology Department, Western Infirmary, Glasgow G11 6NT, United Kingdom

SO Lancet, (3 Jan 1998) Vol. 351, No. 9095, pp. 9-13. .

Refs: 27

ISSN: 0140-6736 CODEN: LANCAO

CY United Kingdom

DT Journal; Article

FS 006 Internal Medicine

018 Cardiovascular Diseases and Cardiovascular Surgery

029 Clinical Biochemistry

036 Health Policy, Economics and Management

LA English

SL English

ED Entered STN: 22 Jan 1998

Last Updated on STN: 22 Jan 1998

AB Background: In previous studies on the use of natriuretic peptides to detect left-ventricular systolic dysfunction, a higher rate of cardiac disorders in the control groups than in the study groups could have led to bias. We investigated the effectiveness of plasma N-terminal atrial natriuretic peptide (NT-ANP) and brain natriuretic peptide (BNP) concentrations to show left-ventricular systolic dysfunction in a random sample of the general population. Methods: We randomly selected 2000 participants aged 25-74 years from family physicians' lists in Glasgow, UK. We sent all participants questionnaires. 1653 respondents underwent echocardiography and electrocardiography. We took a left-ventricular ejection fraction of 30% or less to show left-ventricular systolic dysfunction. NT-ANP and BNP were measured in plasma by RIAs. Findings: 1252 participants had analysable electrocardiograms and echocardiograms, completed questionnaires, and available blood samples. Median concentrations of NT-ANP and BNP were significantly higher in participants with left-ventricular systolic dysfunction (2.8 ng/mL [IQR 1.8-4.6] and 24.0 pg/mL [18.0-33.0]) than in those without (1.3 ng/mL [0.9-1.8] and 7.7 pg/mL [3.4-13.0]; each  $p < 0.001$ ). Among participants with left-ventricular systolic dysfunction, both symptomatic and asymptomatic subgroups had raised NT-ANP and BNP concentrations. A BNP concentration of 17.9 pg/mL or more gave a sensitivity of 77% and specificity of 87% in all participants, and 92% and 72% in participants aged 55 years or older. Interpretation: Measurement of BNP could be a cost-effective method of screening for left-ventricular systolic dysfunction in the general population, especially if its use were targeted to individuals at high risk.

CT Medical Descriptors:

\*heart left ventricle failure: DI, diagnosis

biochemistry

hormone blood level

united kingdom

echocardiography

electrocardiography

heart ejection fraction

radioimmunoassay

questionnaire

cost effectiveness analysis

high risk population

human

male

female

major clinical study

controlled study

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AN 81094356 EMBASE

DN 1981094356

TI Computerized axial tomography in the detection of brain damage. 2. Epilepsy, migraine, and general medical disorders.

AU Cala L.A.; Mastaglia F.L.

CS Dept. Diagn. Radiol., Sir Charles Gairdner Hosp., Queen Elizabeth Med. Cent., Perth, Australia

SO Medical Journal of Australia, (1980) Vol. 2, No. 11, pp. 616-620. .

CODEN: MJAUAJ

CY Australia

DT Journal

FS 014 Radiology  
008 Neurology and Neurosurgery  
027 Biophysics, Bioengineering and Medical Instrumentation  
050 Epilepsy

LA English

ED Entered STN: 9 Dec 1991  
Last Updated on STN: 9 Dec 1991

AB The cranial computerized axial tomography (CAT) findings in groups of patients with epilepsy, migraine, hypertension, and other general medical disorders have been reviewed to assess the frequency and patterns of focal and diffuse brain damage. In addition to demonstrating focal lesions in a proportion of patients with seizures and in patients presenting with a stroke, the CAT scan showed a premature degree of cerebral atrophy in an appreciable proportion of patients with long-standing epilepsy, hypertension and diabetes, and in some patients with migraine, valvular and ischaemic heart disease, chronic obstructive airways disease, and chronic renal failure. The value of CAT as a means of screening for brain damage in groups of individuals at risk is discussed.

CT Medical Descriptors:  
\*brain atrophy  
\*computer assisted tomography  
\*epilepsy  
\*hydrocephalus  
\*hypertension  
\*migraine  
central nervous system  
diagnosis  
major clinical study  
computer analysis  
cardiovascular system